

2309.63810

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application )

Applicant(s): Motoichi Watanuki )

Serial No.: 09/545,429 )

Conf. No.: 1093 )

Filed: April 7, 2000 )

For: METHOD OF MANUFACTURING )  
MAGNETIC HEAD )

Art Unit: 3729 )

Examiner: Trinh, Minh N. )

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May 17, 2005

Date

Registration No. 47,954

Attorney for Applicant

Mail Stop PETITION  
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TRANSMITTAL

Dear Sir:

Enclosed please find the following:

(X) Form PTO/SB64 Petition for Revival of an Application for Patent Abandoned Unintentionally Under  
37 CFR 1.137(b) with a check for \$1,500.00.

(X) **Appellant's Brief on Appeal Under 37 C.F.R. 1.192** (in triplicate), with check for the requisite fee  
under 1.17(c) for \$500.00. (Notice of Appeal previously filed on May 10, 2004).

(X) If a Petition under 37 C.F.R. 1.136(a) for an extension of time for response is required to make the  
attached response timely and does not separately accompany this transmittal, Applicant(s) hereby petition(s)  
under 37 C.F.R. 1.136(a) for an extension of time for response in the above-identified application for the  
period required to make the attached response timely.

(X) The Commissioner is hereby authorized to charge any additional fees which may be required to this  
application under 37 C.F.R. 1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069. Should no  
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By: 

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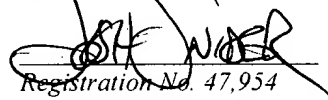
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Date

  
Registration No. 47,954  
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APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. 1.192

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Date: May 17, 2005

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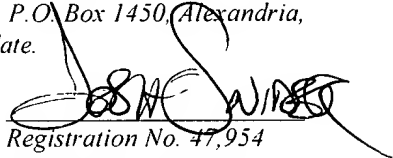
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**APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. 1.192**

Mail Stop PETITION  
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PO Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is in support of Applicant's Notice of Appeal dated May 10, 2004, from the final rejection dated December 10, 2003.

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## **APPEAL BRIEF**

### **REAL PARTY IN INTEREST**

The real party in interest in this case is Fujitsu Limited, 1-1, Kamikodanaka 4-Chome, Nakahara-ku, Kawasaki-shi, Kanagawa, 211, Japan. An assignment of the Application to the real party of interest has been recorded on Reel 010725, Frame 0905.

### **RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences which will directly affect, be directly affected by, or have a bearing on, the Board's decision in this pending appeal.

### **STATUS OF CLAIMS**

This Application was originally filed with six (6) numbered claims. During prosecution, claims 1-5 were amended and claim 6 was withdrawn from consideration. Claims 1-5 are pending, and all claims 1-5 stand rejected. A rejection of these claims is herein appealed. Claim 1 is the only pending independent claim. Claims 2-5 all directly depend from independent claim 1.

### STATUS OF AMENDMENTS

Response D, filed March 3, 2004, has been entered for purposes of appeals.

Amendment C, filed October 2, 2003, has been entered.

Amendment B, filed April 29, 2003, has been entered.

Amendment A, filed November 6, 2002, has been entered.

### SUMMARY OF THE INVENTION

The present invention relates to an improved method of manufacturing a magnetic head for a magnetic disk drive unit. Fig. 2 is an elevational view of a wafer 50 having separations D (Fig. 3), that indicate the thickness of the raw bars 52 that will be cut from the wafer 50. Fig. 3 is an enlarged partial perspective view of the raw bar 52 having a thickness D that is also the slider thickness, and a slider length L. The direction of the thickness (not labeled) of the wafer 50 is in the same longitudinal direction L of the raw bar 52. (See page 4, line 29 to page 5, line 1 of the Specification to the present Application).

According to the method of the present invention, the thickness of the wafer is greater than the length L of the slider, and the wafer 50 is cut into a plurality of raw bars 52 while the wafer thickness is still greater than the length L of the slider. According to the conventional method, however, a rear face of the wafer is first abraded to make its thickness equal to the length of the slider, and only then is the wafer cut to form the raw bars, after its thickness has been made equal to the slider length. (See page 1, lines 10-15 of the present Specification). The conventional method therefore abrades all of the raw bars together in a

single wafer, in one processing step, before the wafer is cut into individual bars. Once cut, these individual raw bars are less rigid and more susceptible to deformation from additional processing.

In contrast, according to the method of the present invention, by cutting the individual raw bars from the wafer while the thickness of the wafer is still greater than the length of the slider, the individual raw bars that are cut from the wafer have a greater structural rigidity, and can be correctly set in a supporting jig with greater accuracy. Accordingly, additional treatment and processing of the raw bars can be executed with more precision.

#### ISSUES PRESENTED

- I. Whether claim 1 of the present invention was properly rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art and Watanuki, when Applicant's Admitted Prior Art directly teaches away from the method of the present invention.
- II. Whether it was appropriate for the Examiner to refuse to consider arguments that rebutted the specific deficiencies and errors in the *prima facie* case for rejection.

#### GROUPING OF CLAIMS

Dependent claims 2-5 stand or fall with independent claim 1.



## ARGUMENT

### **I. THE REJECTION OF CLAIM 1 UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER APPLICANT'S ADMITTED PRIOR ART AND WATANUKI IS IMPROPER BECAUSE A *PRIMA FACIE* CASE OF OBVIOUSNESS HAS NOT BEEN ESTABLISHED AGAINST THE PRESENT INVENTION.**

The Section 103 rejection of independent claim 1 based on a combination of Applicant's Admitted Prior Art ("the AAPA") and Watanuki is improper because a *prima facie* case of obviousness has not been established against the present invention. The prior art of record does not teach or suggest all of the claimed features of the present invention, nor has the Examiner given full consideration to all of the claimed features.

#### **A. The Cited Prior Art of Record Does Not Teach or Suggest All of the Limitations of Claim 1 of the Present Invention.**

To establish a *prima facie* case of obviousness against a claimed invention, all claim limitations must be taught or suggested by the prior art. See In re Royka, 490 F.2d 981, 108 U.S.P.Q. 580 (CCPA 1974). In the present case, however, all of the claimed limitations of the method of the present invention are not taught or suggested by either prior art reference, whether taken alone or in combination. Neither reference teaches or suggests to first form a magnetizable layer on the surface of a wafer having a thickness greater than a head slider's length, and then to cut the wafer into a plurality of raw bars while the wafer thickness is still greater than the slider length. The Examiner's assertions that the prior art discloses or suggests these features, and in this recited order, is contradicted by the prior art.

The AAPA expressly teaches that “a rear face of the wafer is abraded to make the thickness of the wafer equal to the length of the slider, then the wafer is cut to form the raw bars.” (Page 1, lines 12-15 of the present Specification, emphasis added). In other words, the AAPA unequivocally teaches that the wafer is cut into one or more raw bars only *after* its thickness is reduced to be equal to the length of the slider. No alternative order to these steps is anywhere taught or suggested in the AAPA.

In contrast, claim 1 of the present invention as last amended recites, among other things, that the wafer is cut into a plurality of raw bars while the thickness of the wafer is still greater than the length of the slider. This limitation in claim 1 is therefore just the opposite of that taught by the prior art. The present invention recites that the wafer is cut into two or more bars while the wafer thickness is greater than the slider length, whereas the AAPA expressly teaches that the wafer thickness is first abraded to be made equal to the slider length, *before* the wafer is cut into raw bars. It is significant to note that claim 1 of the present invention is a method claim, and this particular order of steps is not taught within the AAPA, as asserted by the Examiner.

Watanuki is the only other prior art reference cited of record against claim 1 of the present Application. The Examiner though, does not assert that Watanuki teaches to cut a wafer into a plurality of raw bars while the wafer thickness is still greater than the slider length. The Examiner cites Watanuki only for the arrangement of dummy sections, and not for the order in which the wafer is abraded and cut into raw bars. The Examiner relies upon only the AAPA as being analogous to such features. As discussed above, however, the

AAPA fails to teach or suggest these features of the present invention, and therefore the Board should find the Examiner's *prima facie* case of obviousness deficient on its face.

Applicant therefore requests that the Board reverse the Examiner's rejection of claim 1, and its dependent claims, for at least these reasons.

**B. The Examiner Has Not Given Full Consideration to All Recited Claim Features and Limitations.**

The Board should also reverse the Examiner's determination that the claims of the present invention are obvious over the combination of the AAPA with Watanuki because the Examiner has not given full consideration to all of the claim limitations of the present invention. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970). In the present case, however, the outstanding rejection of the claims is deficient because of the Examiner's repeated assertion that clearly recited limitations of claim 1 do not appear in the claim. Because the limitations at issue are clearly recited in claim 1, the Examiner's contrary assertions demonstrate that he has not given such limitations full consideration.

In traversing the Examiner's rejection, Applicant has repeatedly argued that claim 1 clearly recites that the wafer is cut into raw bars while the wafer thickness is still greater than the length of the head slider. Although the exact wording of these arguments may have varied within the several Responses, the substance of the arguments has always

been consistent: this clearly recited feature of the present invention is not taught or suggested by the prior art.

Applicant is therefore at a loss to understand the Examiner's several assertions in Paper No. 18 that these features of the present invention are "not recited in the rejected claims." The Examiner's only response to a detailed request by Applicant (Response D) to reconsider this erroneous assertion was a one-line repetition that the claim features of the present invention at issue are "not recited in the rejected claims." (Advisory Action of April 29, 2004). Because the Examiner's only response to Applicant's previous meritorious arguments was to simply deny that these limitations were "not recited in the claims," the Examiner could not have given full consideration to such limitations by definition. Applicant therefore requests that the Board find that the Examiner's continued rejection of the present invention is also deficient on its face for at least these reasons, and thus again reverse the Examiner's decision finally rejecting the claims.

## **II. APPLICANT'S REBUTTAL ARGUMENTS TRAVERSING THE ASSERTED OBVIOUSNESS REJECTION HAVE NOT BEEN ANSWERED BY THE EXAMINER.**

Not only is the Examiner's repeated rejection of claim 1 of the present invention deficient on its face, the Examiner's refusal to withdraw the rejection in light of Applicant's meritorious arguments traversing the rejection was also inappropriate. Applicant has presented meritorious arguments detailing how the cited prior art specifically teaches away from the present invention, and the Examiner should not have casually dismissed these

arguments without first addressing their substance, as he should have done according to Section 707.07(f) of the MPEP.

**A. The Prior Art Directly Teaches Away from the Present Invention.**

As discussed above, the teachings of the AAPA, which are the sole support cited by the Examiner for the claim limitations at issue, directly teach away from these claim limitations. Independent claim 1 of the present invention recites that the wafer is cut into raw bars while the thickness of the wafer is still greater than the length of the head slider, but the AAPA expressly teaches to abrade the wafer thickness to be equal to the length of the head slider *before* cutting the wafer into raw bars. The AAPA therefore directly teaches away from this clearly recited feature of the present invention.

It is well established that a *prima facie* case of obviousness is rebutted by a showing that the art, in any material respect, teaches away from the claimed invention. See In re Geisler, 116 F.3d 1465, 1471, 43 U.S.P.Q. 2d 1362, 1366 (Fed. Cir. 1997). Because the AAPA materially teaches away from at least this specific limitation of the claimed invention, the Examiner should have withdrawn the rejection as having been fully rebutted upon the presentation of these meritorious arguments by Applicant. Applicant respectfully requests that this Board should further reverse the Examiner's final rejection of the claims of the present invention on at least this basis as well.

**B. The Examiner Has Not Rebutted Applicant's Meritorious Arguments That Specifically Traversed the Outstanding Rejection.**

Applicant respectfully requests that the Board still further reverse the Examiner's final determination rejecting the claims of the present invention because the Examiner has failed to answer or rebut Applicant's many meritorious arguments specifically traversing the rejection. As discussed above, the Examiner did not answer Applicant's arguments directed toward pointing out patentable subject matter in claim 1 of the present invention, and instead merely dismissed these arguments by asserting that the limitations were "not recited in the claims." As detailed above, however, these statements by the Examiner were clearly erroneous. The subject matter at issue is clearly recited in claim 1.

Applicant further notes that the Examiner has not addressed the actual arguments submitted by Applicant. Paragraph 5(b)(i) of Paper No. 18 (page 3) appears to reply to an argument that the AAPA does not teach a wafer having a thickness greater than the length of the head slider. Applicant, however, has never made such an argument. In fact, Applicant has acknowledged just the opposite. The prior art wafer does *begin* with a thickness greater than the length of the slider, but this structural feature of the present invention alone is not a point of novelty that Applicant has argued. Instead, Applicant has argued that it is when this greater wafer thickness is reduced, in relation to other steps of the process of the method claim, that makes the present invention patentably distinct in at least this respect. The Examiner's "rebuttal" of arguments that were not made by Applicant

merely avoided the issue, and did not answer any of the arguments made in favor of patentability of claim 1.

The Examiner's only response directed toward an actual argument submitted by Applicant appears on paragraph 5(b)(ii), page 3 of Paper No. 18. This response, however, presents clearly erroneous assertions. The Examiner asserted that paragraphs 2-3 of the AAPA (page 1 of the present Specification) "clearly described as to how, the wafer being cut *prior* to the reducing in its thickness." (Emphasis added). As discussed above, however, this portion of the AAPA teaches exactly the opposite of what the Examiner asserts. Paragraph 3 of page 1 of the Specification expressly states that the rear face of the wafer is first abraded to reduce its thickness, and "then the wafer is cut to form the raw bars." The Examiner's response therefore, is a complete mischaracterization of the teachings of the prior art. The Examiner asserts that the prior art teaches to cut the wafer into raw bars *before* its thickness is reduced, when the prior art clearly teaches that the wafer is cut into raw bars after the thickness is reduced.

It is significant to note that the Examiner refused to respond to the detailed request to reconsider this clear mischaracterization of the prior art's teachings. Applicant submits that the Examiner's refusal to consider these arguments, and thus the Application "as a whole," is yet one more basis under which the Board should reverse the Examiner's rejection.

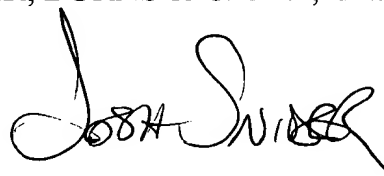
## CONCLUSION

For all of the foregoing reasons, Applicant respectfully requests that this Board reverse the Examiner's final rejection of claims 1-5 of the present Application, and further find that these claims warrant patent protection.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By

A handwritten signature in black ink, appearing to read "Josh C. Snider". The signature is stylized with a large initial "J" and a cursive "Snider".

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**REJECTED CLAIMS**

1. (Previously Presented) A method of manufacturing a head slider, comprising the steps of:

forming a magnetizable layer on a surface of a substrate wafer having a thickness greater than a length of the slider;

cutting said wafer into a plurality of raw bars after forming said layer while said thickness of said wafer is still greater than said length of the slider;

supporting said plurality of raw bars by a supporting jig;

arranging dummy sections of said plurality of raw bars in a single direction;

forming air bearing surface patterns on air bearing surface faces of said plurality of raw bars by photolithography; and

removing said dummy sections from said plurality of raw bars after forming said air bearing surface patterns.

2. (Previously Presented) The method according to claim 1, wherein said plurality of raw bars have thicknesses greater than a length of said slider, and are supported by said supporting jig in a machining step.

3. (Previously Presented) The method according to claim 1, wherein said dummy sections of said plurality of raw bars are arranged on one side in said supporting jig.

4. (Previously Presented) The method according to claim 1, further comprising the step of cutting at least one of said plurality of raw bars so as to form the slider.

5. (Previously Presented) The method according to claim 1, further comprising the step of removing the dummy sections before cutting into at least one of said plurality of raw bars.

6. (Withdrawn) A method of manufacturing a magnetic head, comprising the steps of:

forming a plurality of layers including a magnetizable layer on a surface of a substrate;

cutting said substrate so as to form a plurality of raw bars; and

removing a prescribed part of each raw bar, from one end face, in a direction of piling said layers.